

Remarks

Claims 1-5 and 7-35 are currently pending. Claims 14-25 are withdrawn from consideration as directed to a non-elected invention. Claim 1 is currently amended. Support for the amendments to claim 1 can be found at least at page 11, lines 26-29 of the specification.

Applicants thank the Examiner for the indication that claims 33 and 34 contain allowable subject matter.

Section 102 Rejections

Sun et al.

Claims 1-5, 7-9, 11-13, 32 and 35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Sun et al. (U.S. Patent No. 5,861,019). The Office Action cites Sun et al. as teaching a telemetry system that uses transmission frequencies in the 0.5 GHz to 5 GHz frequency range using microstrip antennas. The Office Action indicates that Sun et al. reads on the claimed invention because the claims do not specify how the power is utilized. Applicants respectfully submit that the amendments to claim 1 to specify that the antenna based device converts the transmitted power to electrical energy which is used to operate the antenna based device obviate the rejection over Sun et al. (Language of claim 1 underlined).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP §2131.01 *citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Sun et al. emphasizes the need to minimize power consumption during uplink and downlink telemetry transmissions as the implanted medical device is powered by a battery and not by the primary controller. (Col. 5, lines 39-42, col. 12, lines 15-17). If the implanted medical device of Sun et al. were powered by the external primary controller, it would not be necessary to minimize the consumption of power during telemetry transmissions. Nowhere does Sun et al. teach or suggest that the implanted medical device can be powered by an external primary controller rather than a battery as in the claimed invention. Therefore, Applicants respectfully submit that claim 1 is not anticipated by the disclosure of Sun et al. and requests that the rejection be withdrawn.

Applicants respectfully submit that claims 2-5 and 7-9, which are dependent on claim 1, are patentable over Sun et al. for at least the reasons expressed above with respect to claim 1. Thus, Applicants request that the rejections of claims 2-5 and 7-9 be withdrawn.

Claim 11 also specifies that the power source of the external primary controller powers the internal antenna based device – (c) powering the antenna based device with the

radiation. (Language of claim 11 underlined.) Thus, Applicants respectfully submit that Sun et al. does not anticipate claim 11 and request that the rejection be withdrawn for at least the reasons discussed above with respect to claim 1.

Claims 12 and 13 are dependent on claim 11 and are patentable over the disclosure of Sun et al. for at least the reasons discussed with respect to claim 11. Thus, Applicants respectfully request that the rejection of claims 12 and 13 over Sun et al. be withdrawn.

Claim 32, which is dependent on claim 9, is patentable over the disclosure of Sun et al. for at least the reasons discussed above with respect to claim 9. Thus, Applicants respectfully request that the rejection of claim 32 over Sun et al. be withdrawn.

Claim 35, which is dependent on claim 1, is patentable over the disclosure of Sun et al. for at least the reasons discussed above with respect to claim 1. Therefore, Applicants respectfully request that the rejection of claim 25 over Sun et al. be withdrawn.

Markowitz et al.

Claims 1-5, 7-9, 11-13, 32 and 35 stand rejected under § 102(b) as anticipated by Markowitz et al. (U.S. Patent No. 5,626,630). The Office Action cites Markowitz et al. as teaching a telemetry system that uses transmission frequencies in the 0.5 GHz to 5 GHz range using antennas that are considered to be microstrip antennas. The Office Action indicates that Markowitz et al. reads on the claimed invention because the claims do not specify how the power is utilized. Applicants respectfully submit that the amendments to claim 1 to specify that the antenna based device converts the transmitted power to electrical energy which is used to operate the antenna based device obviate the rejection over Markowitz et al. (Language of claim 1 underlined.)

Markowitz et al. emphasizes the need to minimize consumption of power by the implanted device as the implanted device is powered by a battery and not the remote monitoring system. Moreover, in Markowitz et al. the internal device communicates only with a nearby device, the repeater. In contrast, the external primary controller of the claimed device transmits power directly to the internal antenna based device. Nowhere does Markowitz et al. teach or suggest that the implanted device can be powered directly by the external primary controller as in the claimed invention. Thus, Applicants respectfully submit that claim 1 is patentable over the disclosure of Markowitz et al. and request that the rejection be withdrawn.

Claims 2-5 and 7-9, which are dependent on claim 1, are patentable over the disclosure of Markowitz et al. for at least the reasons discussed above with respect to claim 1. Therefore, Applicants respectfully request that the rejections be withdrawn.

Claim 11 also specifies that the power source of the external primary controller provides power directly to the internal antenna based device. Thus, Applicants respectfully submit that claim 11 is patentable over the disclosure of Markowitz et al. for least the reasons discussed above with respect to claim 1. Applicants respectfully request that the rejection of claim 11 over Markowitz et al. be withdrawn.

Claims 12 and 13 are dependent on claim 11. Applicants respectfully submit that claims 12 and 13 are patentable over the disclosure of Markowitz et al. for at least the reasons discussed above with respect to claims 11 and 1. Thus, Applicants respectfully request that the rejection of claims 12 and 13 over Markowitz et al. be withdrawn.

Claim 32, which is dependent on claim 9, is patentable over the disclosure of Markowitz et al. for at least the reasons discussed above with respect to claim 9. Thus, Applicants respectfully request that the rejection of claim 32 over Markowitz et al. be withdrawn.

Claim 35, which is dependent on claim 1, is patentable over the disclosure of Markowitz et al. for at least the reasons discussed above with respect to claim 1. Thus, Applicants respectfully request that the rejection of claim 35 over Markowitz et al. be withdrawn.

Fuji et al.

Claims 1-2, 4-9, 11-13, 32 and 35 stand rejected under § 102(b) as anticipated by Fuji et al. (U.S. Patent No. 5,411,535). The Office Action cites Fuji et al. as teaching an external device and an internal device which may communicate in a frequency range of tens of MHz to several GHz. The Office Action cites the external device of Fuji et al. as providing power to the electrodes via radiation to a power voltage converter. Applicant respectfully submits that the amendments to claim 1 to specify that the antenna based device converts the transmitted power to electrical energy which is used to operate the antenna based device obviate the rejection over Fuji et al. (Language of claim 1 underlined.)

Applicants respectfully submit that Fuji et al. does not teach or suggest the use of an external device to provide power to the electrodes via radiation. Instead, the pacemaker main body transmits power to the electrodes. (Col. 6, lines 46-51). The pacemaker main body is not external of a living body. (Language of claim 1 underlined). Instead, the pacemaker main body is imbedded in the thorax. (Co. 5, lines 54-55). Thus, the power for the electrodes is not supplied by an external device in Fuji et al. It is merely supplied by a separate internal device. Nowhere does Fuji et al. teach or suggest that the power for the electrodes may be supplied by a device that is external of a living body. (Language of claim

1 underlined). Thus, Fuji et al. does not anticipate claim 1 and Applicants respectfully request that the rejection be withdrawn.

Claims 2, 4-9, 32 and 35 are dependent directly or indirectly on claim 1. Therefore, each of these claims is patentable over Fuji et al. for at least the reasons discussed above with respect to claim 1. Applicants respectfully request that the rejection of claims 2, 4-9, 32 and 35 over Fuji et al. be withdrawn.

Claim 11 also specifies that the power is transmitted between a first location external of a living body ... and a second position internal of the living body. (Language of claim 11 underlined). As is discussed above with respect to claim 1, Fuji et al. does not teach or suggest transmission of power between a first location external of a living body and a second location internal of a living body. In Fuji et al., the transmission of power occurs between two locations internal of a living body. Thus, Applicants respectfully submit that claim 11 is not anticipated by Fuji et al. and request that the rejection be withdrawn.

Claims 12 and 13 are dependent on claim 11. Thus, claims 12 and 13 are patentable over Fuji et al. for at least the reasons discussed above with respect to claim 11. Applicants, therefore, respectfully request that the rejection of claims 12 and 13 over Fuji et al. be withdrawn.

Section 103 Rejections

Markowitz et al.

Claims 1-5, 7-9, 11-13, 32 and 35 stand rejected under §103(a) as obvious over Markowitz et al. The Office Action cites Markowitz et al. as teaching the transfer of power by the repeater, which the Office Action considers to be a primary controller in this interpretation, to recharge a rechargeable battery (Col. 9, lines 30-48) by transferring power from the interrogation signal to the implanted device. In the alternative, the Office Action states that the repeater and tower of Markowitz et al. could be considered a multi-element primary controller. The Office Action states the Applicants' claims have no limitations as to what the power source may or may not include.

Applicants respectfully submit that the Office Action fails to set forth a *prima facie* case of obviousness. "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP § 2143.03 *citing In re Royka* 490 F.2d 981 (CCPA 1974). In addition, 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the teachings, and 2) there must be a reasonable expectation of success. MPEP § 2142. The teaching or suggestion to make the

claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants submit that there is no suggestion or motivation in Markowitz et al. to replace the battery in the internal device with a system wherein the antenna based device converts the transmitted power to electrical energy which is used to operate the antenna based device. (Language of claim 1 underlined). As stated above, Markowitz et al. emphasizes the need to minimize power consumption by the implanted device as the implanted device is powered by a battery. Nowhere does Markowitz et al. suggest that the battery should be replaced by a direct power source. At best, Markowitz et al. suggests that it may be "obvious to try" a different power source. Such "obvious to try" situations are where "a general disclosure may pique the scientist's curiosity, such that further investigation might be done as a result of the disclosure, but the disclosure itself does not contain a sufficient teaching of how to obtain the desired result, or that the claimed result would be obtained if certain directions were pursued." *In re Eli Lilly & Co.*, 902 F.2d 943, 945, 14 USPQ2d 1741, 1743 (Fed. Cir. 1990). It is well noted, however, that "'obvious to try' is not the standard under §103." *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). Thus, Applicants submit that claim 1 is not obvious over Markowitz et al. and request that the rejection be withdrawn.

Claims 2-5, 7-9, 32 and 35 are dependent, either directly or indirectly, on claim 1. Applicants respectfully submit that these claims are each patentable over Markowitz et al. for at least the reasons discussed above with respect to claim 1. Therefore, Applicants request that the rejection over Markowitz et al. be withdrawn.

Claim 11 also specifies that the power for the internal device is received from the primary controller and not from a battery. Therefore, Applicants respectfully submit that claim 11 is patentable over the disclosure of Markowitz et al. for at least the reasons discussed above with respect to claim 1. Applicants request that the rejection of claim 11 be withdrawn.

Claims 12 and 13 are dependent on claim 11. Therefore, Applicants submit that claims 12 and 13 are patentable over the disclosure of Markowitz et al. and request that the rejection be withdrawn.

Cimochowski et al. in view of Markowitz et al. or Sun et al.

Claims 1-5, 7-13 and 26-31 stand rejected under § 103(a) as obvious over Cimochowski et al. (U.S. Patent No. 5,967,986) in view of Markowitz et al. or Sun et al. The

Office Action cites Cimochowski et al. as teaching a primary controller, an antenna based stent device that receives power and transducer selection data from the primary controller, and a monitoring console. The Office Action cites Cimochowski et al. as suggesting frequencies up to 1 GHz. The Office Action acknowledges that Cimochowski et al. teaches only coil to coil inductive coupling which is excluded from the claims. However, the Office Action cites Markowitz et al. and Sun et al. as teaching microstrip antennas for operating within the 0.5 to 5 GHz transmission frequency range. The Office Action asserts that it would be obvious to one of ordinary skill in the art to use the well-known alternative transmission systems of Markowitz et al. and Sun et al.

However, the Office Action points to no motivation or suggestion in the cited references to make the changes to the device of Cimochowski et al. "The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 40 USPQ2d 1161 (Fed. Cir. 1999)." MPEP § 2143.01. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)." MPEP § 2143.01. Again, at best, the teachings of Cimochowski et al., Sun et al., and Markowitz et al. merely suggest that the claimed invention might be "obvious to try" which is not the standard under § 103. Thus, it is Applicants' position that the Office Action has failed to set forth a *prima facie* case of obviousness with respect to claim 1 and request that the rejection be withdrawn.

Claims 2-5, 7-9 and 26-31 are dependent on claim 1, either directly or indirectly. Therefore, these claims are patentable over Cimochowski et al. in view of Markowitz et al. or Sun et al. for at least the reasons discussed above with respect to claim 1. Applicants, therefore, respectfully request that the rejection be withdrawn.

Claim 11 also excludes coil to coil inductive coupling. Applicants respectfully submit that claim 11 is patentable over Cimochowski et al. in view of Markowitz et al. or Sun et al. for at least the reasons discussed above with respect to claim 1. Therefore, Applicants request that the rejection of claim 11 be withdrawn.

Claims 12 and 13 are dependent on claim 11. Thus, they are patentable over Cimochowski et al. in view of Markowitz et al. or Sun et al. for at least the reasons discussed above with respect to claim 11. Applicants respectfully request that the rejections be withdrawn.

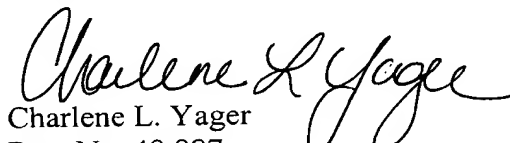
Claim 32 stands rejected under § 103(a) as unpatentable over Cimochowski et al. in view of Markowitz et al. or Sun et al. in further view of Mehra et al. (U.S. Patent No.

5,170,802). The Office Action cites Mehra et al. as teaching the use of stents for pacing. The Office Action asserts that it would have been obvious to one of ordinary skill in the art to use the stent device of Cimochoowski et al. for pacing and stimulating muscle. Mehra et al. does not cure the deficiencies discussed above with respect to claim 1. Therefore, the addition of Mehra et al. does not render claim 32 unpatentable over Cimochoowski et al. in view of Markowitz et al. or Sun et al. Applicants respectfully request that the rejection be withdrawn.

Conclusion

In view of the foregoing, Applicants respectfully submit that the claims as amended are in condition for allowance. The Examiner is invited to contact the undersigned by telephone should any issues remain with respect to the application.

Respectfully submitted,


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